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AUTHOR Phillips, G. Mann
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ABSTRACT

Problems and strategies in implementing classroom token economy systems as a means of behavior modification are reviewed. Discussed is the importance of such factors in the original token plan as the reinforcement schedule, and time-out procedures. Among implementation issues considered are observing and counting behaviors. (CL)

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Panel: Implementing Behavior Modification in the Classroom: Problems and Strategies

Problems of the Implementor

by

G. Mann Phillips, Ed.D.
Assistant Professor, Special Education
Fordham University
New York, New York

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The implementation of a behavior modification program poses many challenges, particularly for the classroom implementor. This paper focuses upon those challenges afforded by a token system. Token systems offer many advantages for classroom behavior modification programs. Tokens provide immediate, visible consequences for behavior, are easier to provide immediately than many back-up reinforcers, and may be saved for reinforcers too expensive or too difficult to provide for every occurence of a behavior. Since tokens are very much like money in a real economic system, problems such as stealing, cheating, pauperism, inflations and depressions are encountered. In general, however, problems in the functioning of a token system are indicated when few tokens are earned or exchanged. This paper attempts to help trouble-shoot problems in implementing a token system in classrooms. Various suggestions are made for repairing the system when reinforcement does not work as swiftly or effectively as planned. Suggestions involve checking the original plan for the token system, as well as implementation procedures. Often implementation problems can be traced directly to the original plan, rather than to implementation procedures.

The Original Plan

The schedule of reinforcement is an important determinant of response rate. Municipal workers, for example, are generally paid on a fixed interval scale. They are reinforced for putting in time, and not for the quality or quantity of work accomplished. Piece-workers are paid on a fixed ratio scale - that is, they are reinforced for the quantity of work completed. The rates of responding for

both kinds of workers, though not entirely determined by the reinforcement schedule, can be seen to be highly influenced by the reinforcement schedule. Business managers understand that reinforcement, in the form of commissions (variable ratio scale) is apt to produce a high rate of responding in the sales force.

Though no strict comparison of classroom dispensing of tokens and backup reinforcement to classical studies of schedules of reinforcement can be made, since few contingency operations in the classroom meet classical scheduling definitions, Long, Hammack, May and Campbell (1958) and Orlando and Bijou (1960) demonstrated that variable and fixed ratio and variable interval schedules used with children often produce behavior which resembles that of infrahumans. Fixed ratio schedules are often associated with pauses after reinforcement, while variable schedules usually produce high and steady rates of responding. Fixed interval schedules with children and adults (Orlando & Bijou, 1960; Weiner, 1969) generally show pauses after reinforcement.

Selection of the appropriate reinforcement schedule is a key element in determining the rate of appropriate responding in a behavior modification program. For example, providing reinforcement on a fixed interval schedule, i.e., at the end of the day or the end of the week, would most likely encourage a low rate of responding initially, with frantic rates of responding as the conclusion of the interval for reinforcement approached. In actual classroom practice, this may mean students not attending and "acting out" at the beginning of an interval, while frantically trying to earn the necessary amount of tokens, cheating or fighting for tokens, as the conclusion of the

interval approached. These behaviors are indicative of a fixed interval schedule. If a steady rate of responding is desired, a variable schedule should be selected.

The schedule of reinforcement is a key element in determining rate of responding, and inappropriate rates of responding can be adjusted by adjusting the reinforcement schedule.

Though the schedule of reinforcement can have a strong influence on response emission, the actual reinforcers selected provide the motivation. A token system is only as strong as its backup reinforcers. You can never predict with certainty what will reinforce the behavior of any particular person. The only way to find out whether a particular consequence is reinforcing is to count the target behavior frequency before and after reinforcement. According to Brown and Presbie (1974), if you follow the rules of reinforcement, and the consequence is reinforcing, some increase in target behavior will occur within about five days. Even if the reinforcers selected have strength, as measured by increased behavior, cheating, stealing, and pauperism may occur if inappropriate token costs are established. Cheating and stealing are most likely to occur when tokens are dispensed for responses which are extremely difficult to make, that is, extremely costly. For example, if backup reinforcement occurs once a week in exchange for the accumulation of an extraordinary number of tokens, a significant amount of cheating and stealing can be expected as the interval for reinforcement draws near. This will be particularly true for those who are unable to maintain appropriate behaviors for a significant length of time -- those for whom the costs are quite high.

It can be seen that the temporal schedule of reinforcing events for operant responses affects both acquisition and maintenance of the behavior (Kanfer, 1973). The term "contingency relationship" is used for the schedule that controls the response-consequence arrangement. The amount of time that occurs between operant response and conferral of back-up reinforcer is critical to both acquisition and maintenance of the desired response. There should be some exchange of tokens, for example, for each school period. Activity reinforcers can be purchased for use with five minutes of free time at the conclusion of a school period. If the interval for exchange is too long, it is generally perceived as too high a cost for maintenance of behavior. Exchange intervals can be gradually extended, with the decision to extend based on rate of response counts as determined by numbers of tokens earned.

Token systems which employ appropriate schedules of reinforcement, reinforcers, and contingencies of reinforcement can still fail if "outlaws" are permitted to roam free, affecting the safety of people, equipment and supplies. Most token systems, therefore, are likely to include "non-point rules" which are generally enforced in what are termed "time-out areas." Time-out is a punishment procedure for decreasing behavior by removing an individual from reinforcing events for a brief specified period of time. Brown and Presbie (1974) advocate the shortest amount of time possible which will work as the ceiling for time-out sessions. They point out that appropriate behaviors cannot be reinforced during time-out.

Selection and administration of the time-out area involves some practical problems. Various types of time-out areas can be

selected, ranging from a quiet corner to an isolated area. Groups which have highly volatile members should have isolated area time-outs as back-ups to quiet corners. Practically speaking, however, this is not always possible. Sometimes reciprocal arrangements can be made with other teachers for time-out exchanges of volatile members. Generally, members of another group do not reinforce the volatile behavior of non-group members.

Sometimes students spend undue amounts of time in time-out areas. This is an indication that time-out is reinforcing. Either the implementor or other group members are reinforcing those engaged in time-out. If the implementor determines that reinforcement is coming from other group members, the implementor can try reinforcing non-compatible responses of other group members with attending to those in the time-out area, or use an isolated time-out, in cases where behavior is so volatile that it is difficult for members to ignore.

Behaviors which appear to be unmodifiable by isolated time-out periods or reinforcement of incompatible responses are many times either inadequately pinpointed, or not within an individual's performance repertoire. These are possibilities which must be examined carefully. It is clear that if the rules of reinforcement are followed, and if target behavior is carefully pinpointed, some increase in desired behavior should occur. Responses not within an individual's response repertoire should be carefully shaped so that the desired behavior will be achieved.

Implementing the Plan

A well-integrated considered plan, though prerequisite to a smoothly functioning program, does not insure a successful program. The plan is merely the blueprint; the implementor is the administrator, with full responsibility for carrying out the plan, evaluating the plan, and making those necessary changes.

In implementing the plan, the implementor must be certain to observe carefully the occurence of target behaviors and incompatible responses, or responses that have been selected for reinforcement, and to record those occurences. Sometimes a plan is too ambitious in the numbers of behaviors to be observed and the counting procedures too cumbersome for monitoring. Behaviors such as cheating and stealing are likely to be emitted under those circumstances. Limiting the number of behaviors to be observed is the best insurance for avoiding the problems associated with an overly ambitious plan. In general, limiting the amount of observations to five to seven behaviors for a single time block is reasonable in assuring counting accuracy.

In addition to observing and counting behaviors, the implementor both reinforces and ignores behaviors. Inadvertent non-verbal implementor reinforcement is a problem that can be avoided by careful implementor training. Sometimes appropriate behaviors are not emitted, or not emitted at sufficient rates, because incompatible behaviors are being reinforced by someone else, or antecedent stimuli may be exerting an overwhelming influence on the response. The implementor can adjust antecedent events, where they are judged to be interfering with planned contingencies, and reinforce

incompatible responses in those who are reinforcing the undesired behavior.

In general, there are two principles of human behavior which govern all behavior modification programs: behavior is a function of the environment; behavior is learned. Events in any situation which have the strongest effect on behavior are those which occur just before a behavior is exhibited and those which occur just after a behavior is exhibited. If a behavior modification plan is judged to be well-designed, and appropriate responses are not emitted, or emitted at insufficient rates, the implementor behavior, behaviors of others, and antecedent stimuli surrounding contingent behavior should be carefully observed, analyzed, and appropriate changes made. A behavior modification program that is well-planned and well-implemented is one that will work.

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